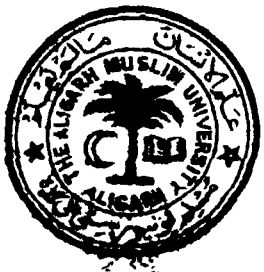

INDUSTRIAL CONCENTRATION IN CALCUTTA

Dissertation

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE AWARD OF THE DEGREE OF

Master of Philosophy

in

ECONOMICS

by

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UNDER THE SUPERVISION OF

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May 22nd, 1998

Certificate

This is to certify that Mr. Fakhruddin Ahmad has completed his dissertation entitled ***"Industrial Concentration in Calcutta"*** for the award of the degree of M.Phil under my supervision. His work is original and is fit for evaluation.

A. M. Siddiqi

(Abdul Mannan Siddiqi)

Supervisor

Dedicated

to

My Parents

Contents

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Aligarh - 202002

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(FAKHRUDDIN AHMAD)

List of Tables

List of Figures

Introduction

Industries since its inception, have been playing most crucial role in shaping, moulding, changing and incarnating the modern civilization. It holds the key of the development processes in every field with which all sorts of progress, advancement and new vistas of scientific opportunities are closely associated. The present day civilizational oppurtunities is interwoven with the degree of industrial attainment. One of the basic indicators of advancement of the present day world is considered to be the stages at which industries are found to be developed.

Industrial concentration not only emphasises the location of different industrial units at a place but it also takes into account the various factors which play the role of cause and effect. The engagement of employment as well as production of goods may also be termed as the basic components of concentration. It also encompasses the role of demand generating capabilities.

Development in the field of technology, the increasing interdependence of the major units of production, transportation and services, the changing character of the labour force and the emergence of new economic and social problems have changed and will change further the environment in which industrial relations are shaped. Industrialization is a basic feature of modern economic growth and intended to signify that only the non-agricultural industries display major rises in productivity. Ad-

vanced industrial countries are said to be experiencing their second, or perhaps third, industrial revolutions. The underdeveloped countries are said to be in the midst of a "revolution of rising expectations", and on the verge of the early stage of a first industrial revolution.

Industry is an area which concerns all the social sciences. It has elevated the interests of the economist, sociologist, psychologist, management scientist, historian, industrial relation specialist and social worker. It disregard traditional boundaries which have rapidly separated one discipline from another. The sociologists cannot shut their eyes to the theory of industrialization merely because the most ambitious attempt to etch the future shape of society has been made by a group of economists.

Methodology

A ratio is used to indicate the degree of concentration and for the matter ratios have been used.

(a) the smallest number of firms whose sales, employment or some other size measure seem to a given percentage of the total industry sales, employment etc. usually 60,75 and 80 percent.

(b) The Herfindahl Index: This has been derived by the American economist Orris C. Herfindahl. This takes the value of sales, employment or other size measure for each firm, expresses each of these as a proportion of total industry sales, employment etc. squares each of these proportions

and then sums them.

The index is $H = \sum_{i=1}^{n} \left(\frac{X_i}{X}\right)^2$ where H is the Herfindahl

Index, i = 1,2,.....n;

xi = Value of sales or employment, i.e., of the size variable for the ith firm, and x is the total value of the size variable for the industry.

The maximum value H can assume is 1, this is when one firm has 100% of sales etc. in the industry. The smallest value H can take is 1/n (n is the number of firms in the industry), and this occurs when the firms in the industry are all of exactly equal size.

(c) The percentage of total industry sales, employment or some other measure of size, held by the largest three, four or eight firms. The greater this percentage the more concentrated the industry.

Simple percentage and method has been adopted to calculate and analyse the data. Tables and figures have been made to study the situation-line graphs have also been drawn to show the trend of the industrial growth in Calcutta as compared with that of the State.

Data Base

The method of research followed during the course of this study is analytical in nature. The study covers the time period from 1980-81 to 1994-95. The present study is fully based on secondary data published by various government agencies. The data thus collected were tabulated,

analysed and interpreted in consonance with the objectives of the present day.

Aims and Objectives of the Study

Many studies have been done for the manufacturing industires in India and abroad. An attempt has been made in this study to evaluate the distribution of registered working factories and number of small scale units in Calcutta. It has been tried to analyse the current situation in Calcutta. Endeavour has been made to find out various causes which effect the scenario of industrial development in the city. Main emphasis has been made to observe and enlist various other factors which have been the integrant of the concentration of industries throughout the world and on the basis of which it has been attempted to study the same situation in connection with Calcutta.

The Study Area and Selection of Topic

Calcutta has for long been the leading industial hub of India but for the last several years it has become humdrum Fading glory of the industrial concentration has its own tale to tell. But a mere pronouncement is not sufficient to call it a deteriorating centre of industrial activities. It is therefore of paramount importance to judge the parameter through the point of

view of an economist and for the reason Calcutta has been selected as the study area. The present work titled "Industrial Concentration in Calcutta" has been chosen owing to the various reasons. Calcutta is one of the main industrial centres of the country and the state of West Bengal as a whole. It also ccupies the undisputed place in India to which the largest areas of hinterlands of eastern India are attached. It possess several other socio-economic-political causes which play key role in making it both decaying and growing industrial hub. These are the component factors due to which the author has selected this topic.

The Study Plan

The present study entitled "Industrial Concentration in Calcutta", deals with the analytical as well as the theoritical aspects of subjects, and takes into account the related fields of industrial concentration in detail.
The ongoing work has been divided into five chapters. The first chapter, "Genesis of Industrial Economy", deals at length the meaning, definitions and emergence of the field. The definition have been substantiated by the opinion of different economist.

Chapter II reads as "Impact of Industrialization". Attempts have been made to analyse the impact of industrialization and its role in the development of the society. It has also been endeavoured to find out the negative aspects of industrial development. Emphasis has been made to underline

industry flourish in Calcutta.

At the end a list of bibliography has been included to the sequel.

CHAPTER -I

Genesis of Industrial Economy

Industrial economy has played a crucial role in our development strategy and particularly with regard to the objectives of structural diversification, modernization and self reliance.The rapid progress in industrialization accompanied by technological growth and managerial skill is essential not only for efficient operation of highly complex and sophisticated industrial enterprises but also for its planning, design and construction.

"Mankind had made a long march from the days of Adam as Keynes dates it to this age of automation and cybernatics. In this long march mankind has achieved a tremendous progress."[1] History of Industrial development indicates that smashing of machines during the second half of the 18th century culminating in the passing of Acts (1779) to control and prevent riots against machinery and efforts of prohibiting the use of machinery in industry through legislation (1780) in England.[2]

"Although the study of industry by economists is as old as the study of economics itself,[3] the term 'industrial economics' is of quite recent origin. It appeared for the first time into the literature of Andrews in1950s[4] Importance to this the economic analysis of industry was not recognized a distinctive branch of economics in many quarters and given a variety of different names, such as , 'economics of industry', 'industry and trade', 'business economics', 'commerce' and 'industrial organization' etc. being the ones most frequently encountered.

Contribution of Adam Smith in the field of industrial economics

1. Baishya, P (1889): Small and Cottage Industries; Manas Publications, Delhi, P.3
2. Mantoux, P (1948): The Industrial Revolution in the Eighteenth Century: Jonathan Cape, London, PP 410-15
3. Phillips, A and Stevenson, RE (1974):'The Historical Development of Industrial Organisation', History of Political Economy, vol. 6, No.3; PP 324-42
4. Andrews, PWS (1951): 'Industrial Analysis in Economics', Oxford Clarendon Press

included the analysis of product pricing. He regarded a product having two prices, i.e., market price and natural price determined by the labour required to make the product possible. Ultimately he emphasised in 'natural price' and ignored the market price altogether. "The impact of Chamberlin's work in industrial economics was so profound that it was regarded as the single most important antecedent of contemporary industrial economics."[1]

Objectives of Industrial Economics :

One of the most important objective of industrial economics is the development of satisfactory explanations and smoothly functioning of the ways in which economics forces operate within the Industrial sector. Empirical investigations in industrial economics now place the development and refinement of economic theory among principal objectives. The ultimate purpose is to interpret and forecast the actual situation in the real world. In fact, here applied economics is the logical extension of any theortical economics and is the ultimate justification for it. Traditionally microeconomic theory is aiming at to make broader analysis and predictions than those with which industrial economics have been concerned.[2]

Development is not a peak of achievement to which all countries aspire and which some have reached; it is rather a continuing process. The so called developed countries are themselves still developing , growth has been faster in the United States during the present century than in the countries of Western Europe and more recently has been for more rapid in

1. Donald, AH and Derek, JM (1992); (Industrial Economics: Theory and Evidence c.f. Barthwal, RB): Industrial Economics: An Introductory Text Book; Wiley Eastern Ltd, New Delhi, PP 6-7
2. Machlup, F (1946): Marginal Analysis and Empirical Research; American Economic Review, vol 36, PP 518-33

Germany and Japan than in the Great Britain and Italy. Yet all these countries form part of developed world. The process of developement requires two conditions: the availability of resources, of which energy sources are probably the most important, and secondly, socio-economic milieu which encourages, protect and reward the entrepreneur. Great Britain possessed both when modern economic development began in the 18th century. Other countries in Western Europe were no less well endowed with resources, but social conditions were less conducive to development. On the other hand, Japan was able to compensate for its poverty in industrial raw materials and energy resources by means of its managerial skills and the determination of its government.

Development necessarily takes place through time. It is diffused from the centres where it first takes place, e.g., innovations such as the steam-engine, technical process in iron and steel working and the adoption of mechanical spinning and weaving originated in Great Britain and then spread first to France and the Low Countries, then to Central and parts of Eastern Europe, and lastly to the New World and Japan. The outward spread of innovations was not regulary predictable.They were adopted as and when a need for them appeared, and in many areas they were opposed by those who believed themselves threatened by their introductions. Diffusion has a strongly random element, and much depends on human perception of a situation. For instance, iron was first smelted with coke fuel in Great Britain about 1709. Subsequent experiments in France and the Low Countries failed, however, the coke was not used successfully in continental Europe until the late 18th century in Silesia. It was not used in the Ruhr, which had the most

abundant reserves of coking coal until 1849.

It is commonly accepted that fundamental changes in the practice of agriculture are a necessary prelude to developments in manufacturing. The Industrial Revolution in Great Britain was preceded and accompanied by radical changes in agriculture, which eliminated the open fields and the practice of fallowing, and also initiated the selective breeding of livestock. France, after 1815, underwent important changes in agriculture, and later on the industrial developments of the former Soviet Union and Eastern Europe went ahead together with the collectivization of firms. The availability of energy resources and industrial raw materials is always an important factor in industrialization and economic growth.In earlier developments it was essential: one could not conceive of modern industrial development except for a country like Great Britain, which possessed large reserves of coal and at least some other materials, and before 1850 industrial development could not occured significantly in more than a few kilometres from a coal field. In the 19th century, the development of canals and railways permitted manufacturing to be established at a distance from the coalfields especially in Germany, where most of the modern industrial development took place after the construction of the railway network. Today, thanks to high voltage transmission of electric power, energy supply is far less significant in the location of manufacturing, and in many of the developing countries, the most important energy source is imported oil. Although certain industries such as iron-smelting remain closely linked with the sources of their chief materials.

Market Structure :

No doubt, 'structure' is a term frequently used,but rarely defined in industrial econommics. 'Industrial structure' refers to the relative importance of individual industries within an economy and to the transactions pattern between these industries. 'Structure' generally refers to the levels of seller and buyer concentration, the height of entry barriers and the degree of product differentiation within individual markets.[1] Structures of industries can be divided both on the basis of ownership and size .On the ownership criteria, industries can be further divided into private, public and joint sector units .On the basis of size, they can be categorised into small, medium and large.In india, most of the large and medium scale units are in the public and joint sector. Small scale units are in the private sector. The next important criterion of industrial economy is the increasing contribution to the secondary sector. An important structural change that accompanies economic growth is that the share of primary sector on the total national output falls, whereas that of the secondary sector rises. This is testified by the experience of the other countries where sizeable shifts in the relative contribution of various sectors to national output occurred. To achieve these targets a major requirement to ensure a good market is the need for proper transaction links. Development of suitable road and rail link would go a long way in meeting market demands by improving the distribution system for various products.[2] The strength of the country's industrial structure stemmed from several positive aspects of industrial progress achieved in the past,i.e., substantial increase in the size of the industrial sector,

1.Devine, PJ; Lee, N and Jones, RM;Tyson WJ (1986): 'An Introduction to Industrial Economics' George Allen and Unwin Publishers Ltd, London, P1

2. Patnaik, SC (1988); 'Industrial Development in Backward Region', Ashish Publishing House, New Delhi, P33

diversification of industrial base, development of scientific, technical and managerial skills and broad based growth of the entrepreneurial class. Most of the time,particularly,in underdeveloped countries these could not be fully utilised because of weaknesses which have developed in the industrial structure.The weaknesses that were identified were: long gestation periods, low capacityt utilization,inadequate technological innovation, increasing obsolescence, low rate of increse in productivity high cost structure. The emergence of shortages in the supply of strategic inputs such as power,coal,steal,cement and the inadequacy of transport facilities have accentuated the problems. Several of these weaknesses could be rectified if conditions are created for promoting an atmosphere of mutual trust between government and industry.[1]

As the tempo of developement grows, so does the requirment for capital is needed for developement. The need of capital is continuous and also boundless. It is also genrated by developement. Economic progress creats its surpluses with the intention of further development is achieved, often at an acclerated rate. Most of the developed and developing countries have relied on their respective government for the capital investment and goverment is today the largest entrepreneur, accunting for almost half of existing industrial investment and continues to have new projects in fertilizer, steel and other fields requiring a large amounts of new capital.

The economic growth of nations in modern times is not merely a process of accumulating meterial capital and increasing the numbers and even the skills of the labour force. The major source lies in the increased knowledge applicable to practical problems of economic production.This

1. Ram, B(1980): Silver Jubilee Symposium, 'Indian Industry Looking Ahead', Summary Proceeding and Papers Published by ICICI, Bombay in March 1980

large and growing potential of technological knowledge can be tapped only if economic and social institutions have been properly adjusted to permit capital accumulation and efficient labour force.

CHAPTER-II

Impact of Industrialization

Industrialization is a process of economic development in which a growing parts of national resources are mobilised to develop a technically uptodate diversified domestic economic structure characterised by a dynamic manufacturing sector having a producing means of production and consumer goods and capable of assuming a high rate of growth for the economy as a whole and of achieving economic and social progress.[1] Mere multiplication of industrial units during a period of time, irrespective of their commercial success and impact on the economy in terms of contribution to income, employment and economic and social progress is no index of industrialization. Industrialization offers a major opportunity and opens new doors of development for economically backward region, experincing high population pressure, chronic unemployment and underemployment on account of lack of adequate off-farm employment.opportunities.

Industrialization is the process where industrial activity plays a dominant role in the economy of a nation. Industrialization may take place as a result of some process of development planning. Manufacturing has always been regarded a necessary economic activity, ever since the first fashioning of a plough. The advantages of division of labour eventually created specialist producers of particular types of commodities.[2] The division of labour not

1. UN Committee for Industrial Development, Report of the Third Session (13-31 May, 1963), P 33
2. Johnston, RJ; Gregory, D and Smith, DM (1994): The Dictionary of Human Geography; Blackwell Publishers, Oxford, P 285

only enabled a producer to experience a higher level of output / produce, but at the same time it brought forward a unique and maintained enterprise. It initiated the on set of specialist manufacturing unit. This input brought tremendous advantages to the manufactures in respct of higher yield on the one had and on the contrary the average productivity of the labourer improved considerably.

Industrialization as a spontaneous activity refers to the replacement of small scale produtcion for either personal use or a limited local market through a type of activity characterized by a much larger scale of productive unit. Such a change can be activated by the growth of the market to such an extent that the pre-existing system of manufacturing cannot maintain an adequate supply, but from other sources, such as the accumulation of capital in quantities needed for large investment in plants and the development of a technology appropriate to the task. On the other hand, the process of industrialization under CAPITALISM involves important changes in the social relations of production. Earlier the development of manufacturing industry, apprentices may be bound to masters in a manner that constrains their mobility and freedom to sell their labour as they choose. As large scale industry grows, it is important to have a supply of labour capable of responding to market force and this break down the existing system of organisation. Industrialization is considered to be the panacea for the problems of poverty in underdeveloped world. The process is restricted not only by the shortage of capital but also by the predominance of the road of primary producers

assigned to underdeveloped countries in the international division of labour.

Beyond work place, industrialization produces major changes in the economy.The work force moves from subsistence to predominantly commercial activity. It is in the sphere of work that the impact of industry is most immediately felt. Industrial employement brings a distinct pattern of relationships with machines, fellow workers and superiors.[1] Today it is quite clear the effects of the processes of industrilization are felt in all sectors of the economy, mobilizing a growing portion of national resources for the development of technically advanced economic structures that can produce consumer goods and investment and guarantee its own economic and technological reproduction is a historic imperative for third world countries; it is the path that should be taken by them in order to have access to development, modern technology and contemporary civilization itself.[2]

The developing countries usually have economies dominated either by agriculture or by re enues from primary resources such as oil or other minerals, but few are willing to remain dependent on such primary products. The power and wealth of the developed countries are based on industrial advancement, and in consequence it seems to be the aim of every developing country to establish industries.

There are various advantages of industrialization. By developing industries a country can provide consumer goods, textiles and other important goods for itself inspite of depending on imports. Increasing self-sufficiency provides major political and economic strength and makes a coun-

1. Ramaswamy, EA; Ramaswamy, U (1981): Industry and Labour: An Introduction, Oxford University Press, Delhi, PP 40-41
2. Srivastava, R (1985): Economic Development and Third World Countries: Towards a New International Economic Order, Deep and Deep Publication, New Delhi, PP 77-80

try more independent of foreign military or economic supermacy. The development of industries may be one way of diversifying the economy and decreasing reliance on one or two primary products which may fluctuate greatly in price.[1] Most of the developing countries are faced with rapid population growth and it is increasingly difficult to provide employment oppurtunities to all. Farm mechanism and greater effeciency in the agricultural sector will free more and more people from the land. Industrialization is considered to be the best way of providing large number of jobs for the unemployed. It is also a fact that industrialization improves living standards. The cash income of industrial workers is generally higher than that of farmers. The experience of the already industrialised countries has shown that, as living standards are raised, the rate of population growth decreases, and thus in the long term, as well as the short term, living standards can be enhanced by reducing population pressure.[2]

Industrialization is always not regarded as globally beneficial. In addition to some of the negative side effects observed in the underdeveloped world, there are the ecological implications of indiscriminate resource exploitation and unrestrained pollution of land, sea and air. The continued 'advance' of industrialization also needs sources of energy, the availability and security of which are no longer ensured.[3]

Ecology as a factor for Industrialization:

It is unfortunate that ecological considerations tend to get a back seat in

1. Leong, GC and Morgan GC (1982): Human and Economic Geography ; Oxford University Press, Oxford, PP 509-10
2. Ibid. P 510
3. Johnston, RJ; Gregory,D and Smith, DM (1994): The Dictionary of Human Geography; Blackwell Publishers, Oxford, P 285

economic planning, particularly while planning for industrial development. Many countries and regions tend to suffer now and have inherited depleted economy due to indiscriminate exploitation of its natural resources earlier, unmindful to natural environment and its capacity to recreate and conserve invaluable wealth. More often it is believed that economic development through the process of industrialization, especially the development of large and medium industries,would inevitably result in the degradation of environment, loss of ecological balance and depletion of its rare natural resources. Although freshness of air and water are difficult to capture in a framework of quantification, it cannot be denied that air and water pollution have higher magnitudes of social cost giving rise to escalation of public spending or preventive and curative measures. Environmental deterioration occurs rather slowly over a long period.The benefits of environmental protection are also equally slow to percolate and felt. The policy makers including planners, administrators and political leaders in their anxiety to produce quick results, visible enough to swing public opinion in their favour and private manufactures and traders in short term view of maximising private profit, tend to be unmindful to the environmental costs and benefits which are no less tangible and of higher magnitudes over long time horizon.Here comes the necessity of prudent and enlightened intervention by the government for protecting and preserving environment in the longterm economic interests. Sometimes the government itself is responsible for encouraging indiscriminate exploitation

of natural resources.Specially during the first three five year plans in India. Government policy towards environmental protection was very weak.There was no appropriate thinking towards such a vital concept of ecological balance as an integral part of development policy.[1] Integration of environmental issues with the economic planning of the state, specially while programming for various industries, is crucial and it should receive top priority from the very starting of survey and preparation of project reports.To check the ecological imbalances, it is also necessary that environmentally negative activities be suitably taxed and positive activities be subsidised Environmental objectives and targets should clearly be specified. While planning for new industries, programming of afforestation, cleaning of rivers,avoiding air pollution in neighbourhoods and avoiding other environmental hazards be specific target of industrial planning.

All industrial production gives rise to some form of waste.It is a fact that the complete removal of contaminants is not practical and this leads to pollution.The dilemma arises from the necessity for economic development and the equal necessity of preservation of the environment.The quality of life existing in the West requires commensurate pollution controls.It is relevant to ask whether in India, where the quality of life of millions is below the poverty line, such exacting standards are tenable.[2]

Due to rapid industrialization throughout the world and more specifically in the highly industrialized parts of the globe, a threat has become unavoidable concerned with the sustenance of natural resources.Two

1. Patnaik, SC (1988): Industrial Development in a Backward Region, Ashish Publishing House, New Delhi, PP 66-67
2. Patwardhan, MS (1980): Indian Industry Looking Ahead 'Silver Jubilee Symposium, Summary Proceeding and Papers Published by ICICI Ltd, Bombay

types of natural resources are available in the world, i.e., exhaustible and inexhaustible resources. Exhaustible resources once used are seldom renewed and it takes geological era to replenish.Our resources are meant not only for the utilisation of the present generation but also for the future generation.[1]

Industrialization and Environmental Degradation:

Due to the advancement of science and technology, which started in 1860 in England, industrialization took place and soon spread over Western Europe and North America.It is a fact that rapid rate of industrial development has given economic prosperity to human sociery.It has also given new socio-economic dimension as well as has provided material comfort to the people of indutrially developed countries but it has also created manifold environmental problems.

In the beginning several countries of the western world blindly followed the race of indusrialization and did not realise its environmental consequences. Both the components of industrial development, e.g., exploitation of natural resources and industrial production have created several lethal environmental problems and have caused large scale enviromental degradation and ecological inbalance at global, regional and local levels in many ways. Exploitation of natural resources in order to meet the industrial demand of raw materials has resulted into (i) the reduction of forest covers due to reckless felling of trees, (ii) excavation of land for mining purposes,(iii) reduction in arable land due to industrial

1. Desai, SSM (1988): Industrial Economy of India, Himalaya Publishing House, Bombay, P 40

expansion,(iv) lowering of groundwater table due to excessive withdrawal of groundwater,(v) collapsing of ground surface due to withdrawal of mineral oil and groundwater etc. Development in agricultural sector in order to supply raw materials to factories such as sugarcanes, cotton etc. has been responsible for over utilization of soils which has resulted into soil pollution due to excessive use of chemical fertilizers and pesticides and insecticides.[1]

Besides desired production, there are numerous undesired outputs from the factories such as industrial wastes, polluted water, toxic gases, chemical precipitates, aerosols, ashes and smokes etc. which pollute air, water, land, soils etc. and degrade the environment.The industrialized countries have increased the concentration of pollutants emitted from the factories in the air, water and land to such an extent that they have degraded the environment to the critical limit and have brought the human siciety on the brink of its destruction. The adverse effects of industrialization may change the over all character of natural system and the chain effects sometime may become suicidal for human society. Majority of the impacts of industrialization are related to pollution and environmental degradation.The release of industrial wastes into stagnant waters of ponds, tanks and lakes into rivers and seas contaminates water and causes several diseases and deaths of organisms and this disturbs ecological balance of aquatic ecosystems. Release of chlorofluorocarbon (CFC) in the atmosphere through the operations of spray dispensers, refrigerators,

1. Singh, S (1995): Enviromental Geography; Prayag Pustak Bhawan, Allahabad, P 346

airconditioners and fire extinguishers is capable of depletion of ozone layer. Increases in the concentration of CO_2 in the atmosphere and depltion of ozone layer may cause changes in weather and climatic conditions at global and regional levels, may cause severe damages to plant and animal lives and thus may create ecological imbalance, may cause dangerous diseases like skin cancers etc. Release of toxic gases through attentive and unattentive actions of man causes environmental hazards which destroy all types of life-forms in the affected areas.The Bhopal Gas Tragedy (Dec. 3-4, 1984) and Chernobyl nuclear disaster (1986) are the few examples of disastrous effects of modern industrialization.[2]

Industrialization needs to be sustained at the optimum level. It, of course, is a process which brings rapid stride in the field of economic and social well-being.The third world countries hitherto are deprived in the direction so as to meet the growing needs of population. Industrialization is the most desired way out to enhance the quality of life of the people of the developing countries. Besides various other advantages which obviously out number the demerits, but somehow or the other it has brought tremendous changes in the environment, that suggest the economists in particular to delve the mechanism so that judicious use of natural resources may be made keeping in view the need of the future generation together with eco-friendly methods of production.

1. Singh, S (1995): Enviromental Geography; Prayag Pustak Bhawan, Allahabad, P 347

CHAPTER - III

Social Implications of Industrialization

The World is full of revolutions. This advanced industrial countries are said to be experiencing their second, or perhaps third,industrial revolutions. The underdeveloped countries said to be in the midst of a "revolution of rising expectations", and on the verge of first industrial revolution. If we accept a common-sense meaning of "revolution" as rapid, extensive, and fundamental social change, the social implications of industrialization are indeed revolutionary. It appears that the best path to follow is to present first some aspects of the basic contrast, in social structure and cultural relations, between a society which has not yet entered into the process of industrial development and a society which has passed through this stage to draw attention to the principal factors which seem to be most crucial in this process of change.[1]

It may conveniently begin the task by referring to well-known contrasts in social and cultural features of different types of society, e.g., the division between folks and urban cultures; or between "community" and "society" or between tradition-oriented patterns of social action and those conforming to the canons of purposive and substantive rationality.[2] Many non-industrialized societies, the small group is the relevant unit of social cohesion. This small community often has its origin in tribal groups. Its importance lies in the fact that its membership is usually strictly circumscribed limited to persons who have either long standing face to face relationships. In many underdeveloped countries highly particularistic

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1. Charles, PL (1959): 'Toward a Theory of Systematic Social Change', New York, Council on Social Work Education, PP165-98
2. Ibid PP 293-308

still exists; and in some instances, they have considerable strength. They are frequently tribal groups; but they may also constitute village communities or castes and other associations based on kinship ties, or on joint occupancy of a small area. Usually, the group lives in a regionally compact area, and its members are related by blood of marriage ties, Geography and familiarity thus reinforce one another; and the small community appears as a hardshelled unit whose main forms of social interaction occur only within the group. In the development process, strong tendencies are set in motion to break up this isolation of the community. The small community is signaficant in its resistance against absorption into the "great society" and as a source of conflicts which arise on the social and personal levels, in the process in which primary loyalties to the small group gradually tend to be replaced by loyalties to the larger society. The family loses its place as a productive and economc security yielding unit in a society in which industrialization has taken place, and where economic ties are with persons outside the kinship group and economic security is obtained through governmental or other insurance schemes. From the description of the small community and of the folk society, it can see that these two concepts are chiefly different designations of the same social type.[1] More important point to its traditionalism to represent it as a society in which traditional forms of action predominate. In fact, the most common way to delineate societies with little industrialization and a limited application of scientific technology to production processes is simply to call them as is done, e.g., by W.W. Rostow- "traditional societies".[2] The concept of traditional social action ultimately goes back to Max Weber, who contrasted it with different

1. Redfield, R (1955): The Little Community, Chicago
2. Rostow, RR (1960): The Stages of Economic Growth, Cambridge, PP 4-6

forms of rational action. Since the concept of traditional has gained such a wide popularity, it might be considered a worthwhile task to explore it more. Traditional social action is found in all societies. Weber described it as action based upon "the psychic attitude set for the habitual work a day and ..... the belief in the everyday routine as an inviolable norm of conduct".[1]

There are two quantitative trend of contemprarey world which involve number of people and their distribution. Both the "population explosion" and the rapid rate of urbanization are connected with industrialization. A considerable portion of the growth of population is due to the falling mortality rate made possible by improved public health and medical technology, which are in turn largely a consequence of industrial development. The movement to the cities is partly a response to the services and amenities that cities offer as a result of economic modernization, and partly a search for economic opportunities better than those in rural areas. Considerably later, with the result that there was rapid transitional growth. The transition is presumably completed when low and relatively constant mortality is matched by low and variable fertility. It is argued that mortality rates fell before fertility rates because death is always a negative value, whereas fertility is positive value. It also argued that fertility eventually declines. This is attributed to indurtrialization and urbanization.

Migration in response to differences in economic activities and opportunities is a nearly universal characteristic of indrstialization. Migration which is a consequence of differences in economic opportunity may be conveniently divided into three types: temporary, permanent-

1. Weber, M (1946): ' The Social Psychology of the World Religions', in Gerth, HH and Mills CW (eds); from Max Weber: Essays in Sociology, New York, P 296

voluntary, and administrative transfers. Temporary labour migration accounts for a substantial volume of movement of people in various parts of the world. Young adults are usually most mobile, may be due to the reson of minimal property and community tjes. Men are generally more mobile than women, except where women have gained considerable social and economic independence. Unskilled workers with their wider transferability by type of industry and occupation and probably their smaller stakes in particular jobs, are usually more mobile than the higher skilld, other type of labour migration is the administrative transfer. It may be quite extensive in controlled economies, with their many restrictions or voluntary transfers.

Although urbanization and industrialization are associated in many ways. The economic advantages of concentration and congestion form one of the connections between industries and cities. Even the small factory town has social characteristies more similar to those of the city than to those of the rural village. In developing areas, cities have actually grown at a rate surpassing both the expansion of employment opportunties and the expansion of urban public services. The ecological structure of city residences whose value increases with distance from the city centre.The cities in the new nations are characterized by suburban slums, whose dirt, health hazards, and congestion often are even greater than the impoverished condition in rural village. Rapid urbaniztion confronts poor countries with serious economic and social difficulties. The demand for houses, streets, water, lights and severs necessarily diverts rerourees from the capital investments which might lead to the very employment opportunities sought. In a sense, cities may become the

cause rather then the effect of industrialization. That is, the aggregation of unemployed and underemployed people who have already broken with rural ties and traditions may conduce to locating plants where the wrokers are. Some countries have tried to acheive deliberate decentralization of industry.

Family and kinship organizations are apparently universal structural features of human societies. Whatever other functions they may perform, they always involve legitimate procreation and the early socializatin and social placement of childern. Whatever kind and extent of broader kinship system exist, the nuclear family, comprising parents and immature children, is invaribly an identifiable structural unit. The principal cause of the breaking of large kinship organization in the extensive mobility required by industrialization. This mobility is geographical, involving physical seperation of kinsmen. The respective fates of adult siblings may be very different in competitive economic placement.

Despite the justifiable cynicism about the extent of "equality" in industrial societies, some inter-generational mobility is essential for the establishment of any industrial system, as well as for the continuous changes in occupational distributions that continuing economic growth requires. The demand that all kinsmen share would alike set impossible restrictions on industrial system of labour allocation and mobility. In India the joint family apparently survives as an operating unit in all ways except residentially; urban workers retain their rural kinship ties. The weakening of kinship bonds is one of the principal social costs that disturb some thoughtful people in areas undergoing industrialization. Some ot the cost appear to be inevitable, unless the productive system is to be inflexible

and highly inefficient.One common problem engendered by industrialization is the rise of "family disorganization". Of course, if family organization is judged by the traditional standard, the changes made in response to industrialization represent disorganization by definition.

Industrialization inevitably provides a new set of social positions and new criteria of social placement and valuation. At the very least, therefore, it must result in the complication of system of stratification. More commonly, it gives rise to competing systems of stratification, since its criteria of placement and valuation contrast sharply with traditional modes of assigning status, power and prestige.The possible integration of the non-industrial with the industrial stratification system depends not only on their degree of similarity, but also on the scope and speed of economic transformation.

To most people in the developing countires there has been most significant measure of development and the most important factor in socio-economic growth is industrialization. Industrialization brings rapid advancement in the society through economic well-being of the people. Developed nations are enjoying utmost basic facilities of living only because of timely acceptance of industrialization. Developing countries lagging far behind the developed one owing to its oblivious attitude towards industrialization. Nevertheless, industrialization brings a sea change in the social milieu of the newly industrialized nations of the world. At the one hand it provides the people with the oppurtunity of prosperity, happiness and good quality of life and on the other side the fragmentation of age old family system, social values, gap between haves and haves not, and the dismantling of social cohisiveness are altogether

at the verge of collapse. But it never tends to imply that industrialization is always associated with dismal consequences. It has never been connected with merely disadvantages in the society. Its social implications are far reaching. When economic changes are brought in the society, it obviously will modify the existing patterns of the social system. It soley depends upon the levels of mental growth of the people of that particular society as to how its people perceive the changes. Social implications are not to be seen only in negative aspect of the social degradation but it has to be translated in terms of its intensity, i.e., how the social and economic wants of the society are fulfilled. Industrialization, of course, brings certain changes in the society but as a whole it improves, shapes and prospers the nation. Rapid growth of urbanization, population explosion, poverty, hunger, diseases, under utilization of resources in the developing countries, malnutrition and globalization are manifestations to adopt industrialzation so that the social welfare will become a reality in the world and move particularly in the developing countries.

CHAPTER - IV

Problems of Industrial Development

Industrial development has its genesis of the beginning of industrial revolution way back to 1779.It is not the lopsided pattern of development, rather it has to be seen in various other factors--physical, social, economic and political as well.Industrial development is achieved when different sets of factors are brought together. Assimilation of these factors may also be seen in the way which bring an area or a region on the map of the industrial clusters.

Problems of industrial development are traced in various other factors.When a country or a region or any planning commission bodies strive in the direction and field of industrialization, it is observed that different constraints emerge in the way of industrial development.Numerous problems which sometimes seem to be aggravated and restrict the development of industries are for instance, geographical, economic, social, political and environmental.Geogrophical factors include climate, relief features,accessibility to and from the site of different raw materials and industries as well. Economic factors are quite vital, as most of the industries and that too in developing countries, financial problems, availability of raw material and natural resources, market system and wage are some of the problems which the industrial development is faced with.Social

problems are labour and employees relations, strike, trade unionism etc. Political interventions, bureaucratic strongholds, law and order problems, lack of infrastructural facilities, technological knowhow, preparedness of people to accept the latest innovative measures, fluctuations in fashion and poverty are problems of paramount importance in the development of industries.

Industrial peace is of vital importance for increasing industrial production and for securing economic welfare of the labour and economic prosperity of the country. Economics is the science which studies human behaviour as a relationship between ends and scare means which have alternative uses.An economic problem, particularly in case of industries, arises because of scarcity of means and their alternative uses.There are various factors which create hindrances in industrial development.

Power Shortage :

Power is critical input for industrial development, its shortage is a major hurdle in industrial expansion. Therefore, government policy generally bases in concentration of a substantial rise in generating of power.

Market and Technology :

Development is being a great need of a large market size for any

product, which means production without consumption is incomprehensible.So, easy accessibility to market for various products and services is necessary.[1] Technology import can be a speedy route to economic growth. Valuable time is lost in achieving self reliance and technological gap between developed and underdeveloped world increases. Export opportunities remain unexploited and more import skill, scarce resources get fittered away by continuance of inefficient technology in the intervening period.There exists a considerable body of theory on collective bargaining, industrial conflict, trade unions, worker participation and practically every other question of consequence.[2] Another problem is transfer of technology which occupies an important place of the industrialization. The so called transfer of technology really constitutes the process by means of which the underdeveloped countries rent or purchase of technology they need for developing a process of industrilazation. It has actually proved to be dependent and divorced, in most cases, from their development needs. Technology turned into one more merchandise and monopolized to a great extent by a small group of powerful countries, has become an element which is nearly impossible for the underdeveloped countries to control and reproduce.[3]

Sometime division of labour creates a high level of interdependence between the tasks performed by different categories of workers.The coordination of the tasks of numerous workers in several sections or departments becomes crucially important. Industries need a class of professional

1. Patnaik, SC (1988): Industrial Development in Backward Region, Ashish Publishing House, New Delhi, PP 70-71
2. Ramaswamy, EA and Ramaswamy, U (1981): Industry and Labour: An Introduction, Oxford Universit Press, Delhi, PP 41-43
3. Srivastava, R (1985): Economic Development and the Thirld World Countries, Deep and Deep Publication, New Delhi, P 97

managers with trained and mastermind work. Production in large enterprises must necessarily be addressed to a large and impersonal market.This sets the process of monotization and commercialization going in society. In turn, impersonal market forces such as changing tastes and preferences and fluctuations in demand begin to exert considerable influence on the production process.[1] Family and class favouritism, personal rather than organization loyalities and whimsical administration, are sufficiently common among the elite groups from whom industrial managers are usually drawn to make the establishment of an efficient administration a halting process.This is not just a problem of the prevalence of sin.[2] Sometime strikes or lock-out becomes hurdle in the smooth functioning of growth and development.To make strike completely illegal would be regarded as intolerable, both from the point of the view of taking away a liberty and because strikes cannot be prevented merely by suppression.

The need to develop an efficient system of grievance arbitration has become urgent in the engineering industry. It is natural due to strike or lock-outs, the indrstrial peace is being disturbed, production declines, production cost rise and labourers suffer hardship due to a fall in their income.The consumers also suffer hardship due to interruption in the supply of goods. Industrial unrest disturbs the tranquillity of the country and benefits nobody.[3]

The problem to be solved has many dimensions, but it can be reduced to three main issues:

1. Ramaswamy, EA and Ramaswamy, U (1981): Industry and Labour: An Introduction, Oxford Universit Press, Delhi, P 34
2. Hoselitz, FB and Moore, W (1963): Industrialization and Society, UNESCO-Mouton, PP 311-12
3. Roberts, BC (1966): Industrial Relations: Contemporary Problems and Perspectives, Methuen and Co. Ltd, P 121

(i) How to prevent wages and salaries from rising at an inflationary pace;

(2) How to bring about a more orderly wage structure and

(3) How to achieve these ends at the same time improve industrial relations. It is difficult to visualise finding a solution to the wages problem without reference to the governments economic and industrial relations policies. Wages are bound to rise at an inflarionary pace of the government's general economic policy is such to promote a demand for labour that outstrips its supply. Most industrial jobs are repetitive, monotonous, difficult and dirty; some are even dangerous.These jobs have to be performed day after day under strict supervision.Workers and management may agree on such general goals as the maintenance of high level of productivity and wages, and the profitability of the enterprise. Disagreement does not necessarily arise only over wages and conditions of work.It can revolve around such a wide range of issues as job assignment, work methods, safety, hiring and firing and participation in decision making.

The st ke is the most dramatic manifestation of industrial dispute. Generally the standard procedure is to use strike statistics published by governments in all major industrial countries to measure the level of conflict.The other indicators of problem are far more elusive and practiclly imposible to quatify.The expressions that problem can find are limitless. Bargaining, grievance handling, boycott,restriction of output, absenteeism, turnover in the labour force, sabotage, intentional wastage of time or material,autocratic suspensions and dismissals, indiscriminate lay off ex-

cessive discipline fixing of unofficial speeds whether by management or labour, and the lock-out are all manifestations of conflict.[1] The strike is one of the most difficult social institutions to research.Gouldner observes in his classic study of the wildcat strike: "A strike is a social phenomenon of enormous complexity, which, in its totality, is never susceptible to complete description, let alone explanation."[2] There can be enormous variation in the reasons for strikes as well as in their manifestations. One of the most common reason is the demand for a large share in the profits of indrstry. Workers ask not only for more money but also for more power, so that they may have some control over the conditions under which they have to work.

Inappropriate of site selection, plant and machinery, inadequate materials control, inadequate maintenance, lack of quality control too hurdle in the case of developement. Healthy industries need well established market structure where products can easily sale on profit motives but some time due to inaccurate demand forecasting, selection of inappropriate product mix, absence of product planning, lack of market research and inappropriate sales promotion creates lot of hindrances in smooth functioning of industrial development. In the case of financial constraints where credit restraints, delay in disbursement of loans, unfarourable investment climate and fear of nationalisation obstruct in the field of development. Production constraints occur due to shortage of inputs and import restrictions on essential inputs. Market canstraints come under liberal licensing of projects in a particular industry, restraint on purchases by bulk

1. Ramaswamy, EA and Ramaswamy, U (1981): Industry and Labour: An Introduction, Oxford Universit Press, Delhi, PP 130-31
2. Ibid P 131

purchasers, excessive taxation policy of government and market recession.

Problems of Industrialization in Underdeveloped Countries:

Certain inhibiting factors present in most of the underdeveloped countries always come in the way of industrialization. The basic economic facilities is one of the major causes of slow process of due to low level of industrialization of these countries development, most of these countries suffer from the general inadequacy of transport system. Another important physicl element, inadequacy of which leads to the obstacle to industrialzation, is power. Due to lack of capipat in these countries, sufficient investment could not be made in developing difficulty infrastructure. An important econimic difficulty of the development of secondary industries in these countries in the smallness of local market and absence of efficient marketing organisation. The social organisation of underdeveloped countries invarialbly contains elements which are not conducive to the rapid growth of secondary industry in these countries. These social factors which hinder economic change in these countries can be considered in relation to the supply of three factors of production, i.e., entrepreneurial ability, labour and capital. Population is another problem which is infesting the economic landscape of the developing nations. Such demographic phenomenon creates new problems of unemployment, underemployment, seasonal unemployment or disguised unemployment. These are also set back in the case of development. Faulty public administration also handicap industrial development. Too much of red-

tapism not only wastes considerable amount of true but also dampens the interest of young entrepreneurs. Some international forces may also hamper the rapid industrial growth of underdeveloped countries.[1] Credit and financial institutions which can mop up the capital from those who have surpluses and make it available to the investor in the form of impersonnel credit, are cruicial for development. Industrialization too requires a committed labour force. For industry to exist, there has to be a market for its products. Industrial technology is geared to production for an impersonnel market. Industry can prosper only if there is political stability. Rationalization is also responsible for industrial development where in business no caste, creed, sex etc. are desirable.[2]

It has been fully analysed that industrial development has lot more to do in eradicating various other problems coming in way of industrialization. Whatever the hurdles there may be some of the remedial measures will lead to alleviate problems if not altogether possible to get rid of completly. Economists have to realize and put emphasis on suggestive measures of the problems of industrial development. Sustainable development is possible only when there is judicious use of natural resources. Government policies may be formulated in such a way that the welfare approach should be accourded priority. Country like India must be adoptive of people oriented programme while opting for industrial development. Law and order problem is the most emergent issue for the development of industries as it desists investors from investing the required capital. Working enviroment is also to be assured so that competitiveness may easily be achieved. Industrial sickness and lock-out problems are two more noticeable aspects of the industrial developmnets

1. Singh, A and Sadhu AN (1988): Industrial Economics, Himalaya Publishing House, Bombay, PP 110-14
2. Ramaswamy, EA and Ramaswamy, U (1981): Industry and Labour: An Introduction, Oxford Universit Press, Delhi, PP 38-40

which also have to be solved for efficient growth of industries. Development may also be ensured of the political stability with sound economic policies together with globalization and the need of the people of the country are taken into account.

CHAPTER -V

Industrial Concentration In Calcutta: The Study Area

Significance Of Concentration:

It has long been recognised that one enterprises can set up an industry and have called this circumstance a monopoly.In case there are many equalsized enterprises coexisting in an industry, the situtation is designated as atomistically.Various firm size distributions are possible due to these situations. Any distribution in which a few firms account for a significant portion of an industry's output or sales is called concentration.The interest in the phenomenon of concentration within industries comes from economic theory which maintains that atomistically eompetitive or lowly concentrated industries will produce a higher output and charge a lower price than if the same industries were concentrated. The degree of concentration is an important determinant of the economic efficiency of the market.

Industrial concentration is a worthwhile subject of study.It is widely believed that this dramatic growth in the power and impact of large organisations is an inevitable product of modern technology and large scle output.The growth in concentration in modern manufacturing industry occurs wholly due to merger, that without the benefit of their acquisitions large firms would not have grown more rapidly than small.These may be

inherent advantages which large firms systematically have and there were lack of comptetions, but if the major one is the power to use their greater financial resources to buy other firms, the real advantage to the economy of their dominance may be minimal.

The fact is that the relationship between concentration and price-cost margins exists suggested by oligopoly theory.Three quite different arguments have suggested that the most useful indicator of concentration is likely to be the Herfindahl measure.The American economist Orris C. Herfindahl takes the value of sale, employment or other size of each firm, express each of these as a proportion of total industry sale, employment etc.His analysis indicates the degree of a ratio used with concentration which exists in an industry.[1]

The necessary ambiguity about the concept of concentration has led some economists to use indicators which are, at best, only approximate measures.There are many possible dimensions of economic power. Turnover (sales) is one, and for purpose of assessing market concentration it is the narural unit to take. For almost any other purpose, however, it is misleading, because firms vary so much in their degree of vertical integration.

The more serious political problem posed by industrial concentration is not the subversion of government by business, but the subversion of business by government.It would be wrong to suppose that government intervention can never be useful.Therefore some scope of constructive government intervention is desirable.A more concentrated economy is one

1. Hannah, L and Kay, JA (1977): Concentration in Modern Industry, The Macmillan Press Ltd, London, P 17

which government is likely to have a stronger influence on the quality of the economic choices being made.

Industrial concentration is concerned with particular products or product groups and is the main focus of attention of those who are concerned with the exercise of monopoly power or some of the other narrower economic effects of concentration.There are many problems in defining industries for this purpose. As the market for cars are more concentrated than that for vehicles. In thinking about the economic role of large enterprises, which mean large in some absolute sense. If all firms, large and small, grew by the same proportion, this absolute concept would indicate that concentration had gone up while the relative measure would show that it had remained the same.[1]

A Proposed Range of Measure :

An index of concentration might have the following properties:

- That it should concur with the ranking of the concentratiom curves.
- That it should fulfil the sales transfer principle.
- That merger implies increased concentration.
- That it should not be affected significantly by the entry or exit of insignificant firms.[2]

The reason behind it is simply that merger is the principal factor currently influencing industrial structure and it is a factor which is asymmetric in effect. If merger activity is low, then it will increase concentration

1. Hannah, L and Kay, JA (1977): Concentration in Modern Industry, The Macmillan Press Ltd, London, PP 39-44
2. Ibid P 114

only slowly.If it is high, then it will increase it rapidly.Only if the level of this activity is really very low, it is conceivable that small firms can achieve sufficiently more rapid growth to offset these effects, but in all recent experience the number of acquisitions has much exceeded that level.

Trends Of Industries:

The economic growth of Calcutta spreads in its surroundings.The surroundings are important in the sense that industrial belt generally do not have their large industries within the city.The Calcutta Metropolitan district highlighs the present day economy and assessment of the future prospects.In Calcutta, practically no 'primary production' (agriculture etc.) is carried out.There is practically no large factory, and the 'secondary production' in the city area is limited to the large numbers of smll industrial units located mostly in the suburbs.The largest part of the core city contribution to the GDP of the state comes from the tertiary sector, i.e., from the imputed values of the output of banking and finance, trade, commerce and transport and other ancillaries to industry.There is also a large contribution through the administrative services, education, health and a host of residual occupations.

While the world depression of 1930 came as a great shock from which the jute mill never fully recovered. The most serious factor affecting the jute mills of the Calcutta area after 1947 was the partition of Bengal which left the mills in Calcutta, while the raw jute growing areas went

to East Pakistan (later Bangladesh).

Drugs :

There are three public sector undertakings engaged in the manufacture of drugs and formutations located at Calcutta.There were private sector companies too, pioneers again in their own field, but had been ailing over the years for various reasons.The management of these companies were takenover by the Central Government in terms of the industries (Development and Regulations) Act, 1951 and subsequently they were nationalised and new public sector companies were formed Bengal Immunity Limited (BIL), Bengal Chemicals and Pharmaceuticals Limited (BCPL), and Smith Stainstreet Pharmaceuticals Limited (SSPL) are public sector undertakings with main manufacturing activities concentrated in the State of West Bengal. BIL is one of the largest producers of SERA and vaccines toxoids.It also produces other pharmaceutical formutations BCPL with four manufacturing units, is the largest producer of anti snake venom in India.It also produces Chemical like sulphuric acid, alum, chrome salts, and home products like soaps, hair oil, perfumes etc. BCPL also produces herbal products. SSPL is engaged in the manufacture of pharmaceutical formulations.[1]

Here industry plays a signigicant role in the economy of this city. Within the city proper there is a very large concentration of printing and bookbinding establishments and on the outskirts are jute mills, jute proc-

1. India (1996), Publication Division, New Delhi

ess, ordnance factories, chemical and glass work, match factories and rice mills.The tea gardens, coal mines and industrial concerns in West Bengal and the neighbouring states are managed, controlled and financed from Calcutta.[1]

The published official reports confirm the obvious fact that industrial units are located mostly outside the Calcutta Municipal Corporation (CMC) area. The number of registered working factories, excluding defence production unit, in the core city was 782 in 1986. This information is in line with the results of the Economic Census of 1980 which shown that Calcutta then had 97,971 'establishments' enganging at least one hired worker', 'somwhat on regular basis', and 89,748 'own account enterprises', making a total of 1,87,719. The fact is that there were in the city nearly 90,000 'own-account enterprises' is significant. It shows that the small producer is very important in Calcutta.

Some very recent development encouraged hope for the growth of new industries. An electronic complex has emerged in the Salt Lake (Bidhan Nagar) are with government sponsorship and collaboration. Even the general rule for prohibiting new large factories near metropolitan cities has been relaxed on the assumtption that the electronic unit will not create pollution or other environmental hazards.Calcutta still remains a large centre of small unit production. The large industry part of the 'industrial city' lies outside Calcutta.

1. Benton, W (1973): Encyclopedia Britannica, Vol. 4, University of Chicago

Concentration of Industries in Calcutta:

Calcutta is one of the major industrial centre of India. The city has a large number of big industries, factories, workshops and worksheds etc.

Up to the year 1993 there were 9787 manufacturing industries in West Bengal out of which 881 are concentrated in Calcutta itself. Table 5.1 shows that in the year 1980 there were 6421 working factories in West Bangal out of which 594 were located in Calcutta which accounted 9.25% of the total of the state.After five year, i.e., in 1985 total number of manufacturing industries in Calcutta rose to 772 out of 7864 of the State which accounted 9.81%. Table 5.1 also indicates that the percentage share of the concentrated manufacturing industries in Calcutta have more or less been the similar, i.e., between 9% to 10% from the year 1980 to 1993. It is also indicative that percentage share of manufacturing industries in Calcutta remained unaffected even after the industrial liberalisation policy of 1991.

Table 5.1

Manufacturing Industries : Distribution of Registered Working Factories in Calcutta

Year	West Bengal	Calcutta	Percentage Share
1980	6421	594	9.25
1985	7864	772	9.81
1986	8064	782	9.69
1987	8348	801	9.59
1988	8573	813	9.48
1989	8764	819	9.34
1990	8960	828	9.24
1991	9262	847	9.14
1992	9597	863	8.99
1993	9787	881	9.00

Source: **West Bengal Statistical Abstract 1994-95 Govt. of West Bengal, Bureau of Applied Economics and Statistics, P 396**

Figure 5.1 has been drawn to show the trend of concentration of industrial growth. It is attempted to show the comparative trend of the manufacturing industries of Calcutta vis-a-vis West Bengal. It is more revealng that the trend of industrial growth in Calcutta is not the same in comparision with the State. It shows that Calcutta is not maintaing pace witht the State. If the figure is analysed it will become clear that the State is having an upward trend of industrial growth and Calcutta is maintaining trend like plateau. It is also remarkable that the gap of industrial development and concentration is also becoming wider and wider. Figure clearly unravels the fact that the concentration of industries in Calcutta from the year 1980 to 1993 has continuously been at the verge of stagnation with slight increase.

Figure 5.1
Trend of Growth and Concentration of Industries in Calcutta

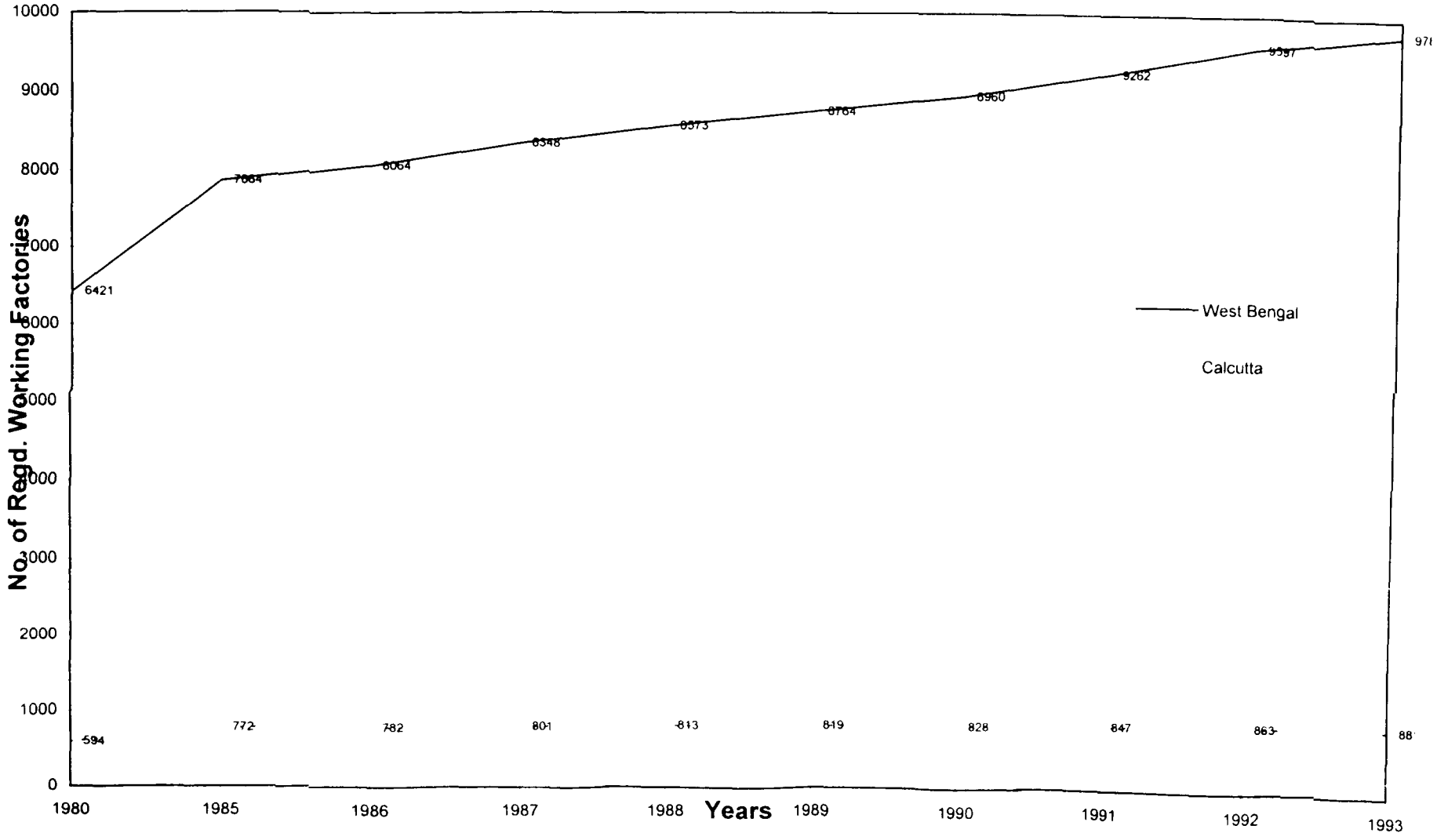


Table 5.2 shows the number of small scale industrial units registered with the directorate of cottage and small scale industries in Calcutta district from the year 1980-81 to 1994-95. The concentration has been erratic. In the year 1980-81 number of small scale industrial units were 1881 and it came down to 1607 in the year 1994-95. It is also quite clear from the table that the number of small scale units was the highest in the year 1990-91,i.e., 2825. It is also noteworthy as per table 5.2 that out of whole range of eleven years of time taken into consideration for the study period there are only four range of years which could cross the figure of two thousand and more number of small scale industrial units in the district.

Table 5.2

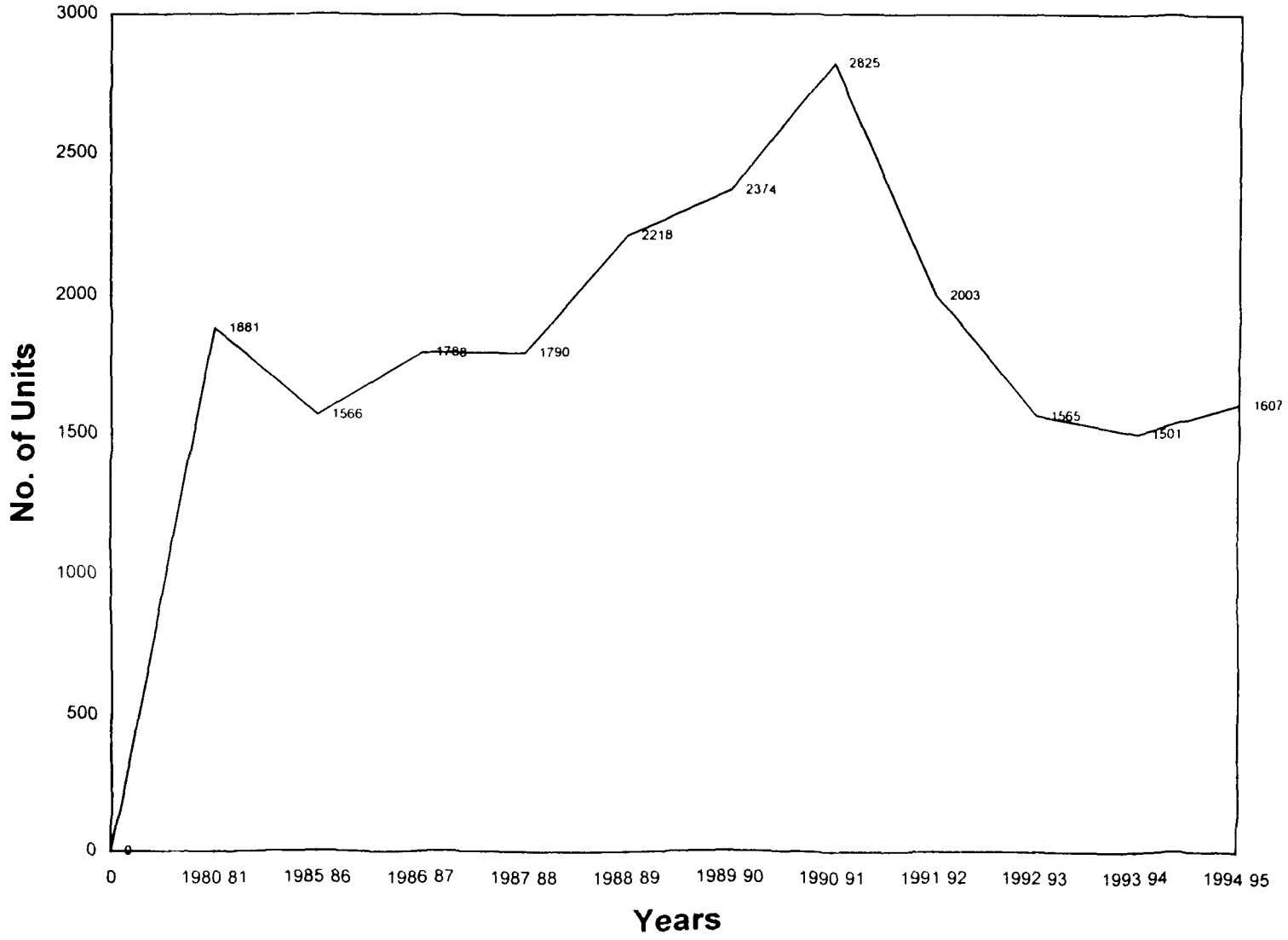
Manufacturing Industries: Number of Small Scale Industrial Units Registered with the Directorate of Cottage and Small Scale Industries in Calcutta

Year	No. of Units
1980-81	1881
1985-86	1566
1986-87	1788
1987-88	1790
1988-89	2218
1989-90	2374
1990-91	2825
1991-92	2003
1992-93	1565
1993-94	1501
1994-95	1607

Source: West Bengal Statistical Abstract 1994-95
Govt. of West Bengal, Bureau of Applied Economics and Statistics, P 396

Figure 5.2 has been drawn to indicate the trend of growth of the concentration of the small scale units from the year 1980-81 to 1994-95. It has emerged as an interesting picture because the trend is very much uneven. Sometimes declining and sometimes increasing abruptly.The graph has touched its lowest ebb in the year 1993-94 and the highest point in the year 1990-91. Gap between the highest and the lowest is much more wider. Figure depicts that six point of years namely 1985-86, 1986-87, 1987-88, 1992-93, 1993-94 and 1994-95 were having the number of small scale units between 1500 and 1800. It is also noted that there are four points of years which lie between the figure of 2000 and above. These years are 1988-89, 1989-90, 1990-91 and 1991-92. There remains only one point of year, i.e., 1980-81 which lies between the figure of 1800 and 2000. It is also observed that trend of concentration of small scale industrial units from the year 1985-86 upto year 1990-91 has continuously been increasing and from the year 1990-91 upto 1993-94 the trend has continuously been declining. The year 1994-95 shows the increasing trend as compared to 1993-94.

Figure 5.2
Trend of Growth and Concentration of Small Scale Industries in Calcutta



In table 5.3 endeavour has been made to enlist the registered working factories at two digit level in Calcutta. There are 35 types of registered working factories classified by industry at two digit level in West Bengal whereas such factories in Calcutta are only 25 in types. Table 5.3 indicates there are 863 registered working factories in Calcutta out of the total of 9597 in the State. In terms of percentage it comes at 9.00. The highest number of factories, i.e., 237 concentrated in Calcutta is occupied by manufacture of paper and paper products and printing, publishing and allied industries which account 27.46% of the district and 43.32 % of the concerned industries of the State. The lowest number of manufacturing industries located in Calcutta is 1 and occupied by two types of industires namely water transport as well as storage and warehousing which account for 0.11% each of the district and 20.00% and 0.45% of the State respectively. Ten types of registered working factories at two digit level which are not concentrated in Calcutta are as such:

(i) Manufacture of cotton textile. (ii) Manufacture of wool, silk and syn-

thetic fibre textiles. (iii) Manufacture of jute, lemp and mesta textiles. (iv) Gas and stream. (v) Construction. (vi) Land transport. (vii) Sanitary services (viii) Education, scientific and research services. (ix) Recreational and cultural services and (x) Services not elsewhwere classified.

There are eight such factories classified by industry at two digit level in Calcutta percentage share of which lies between 1 of the total number of 25 factories of the district. These factories are (i) Manufacturing of beverages, tobacco and tobacco products (0.35%) (ii) Manufacture of nonmetali mineral products (0.81%) (iii) Basic metal and alloys industries (0.92%) (iv) Repairs of capital goods (0.58%) (v) Water works and supply (0.35%) (vi) Water transport (0.11%) (vii) Services incidental to transport (0.23%) and (viii) Storage and warehousing (0.11%). There are only two manufacturing industries which share less than 1.00% of the total number of the concerned manufaturing industries of the State. These are (i) Basic metal and alloys industries (0.84%) and (ii) Storage and warehousing (0.45%).

Table 5.3

Manufacturing Industries: Registered Working Factories Classified by Industry at Two Digit Level in Calcutta (1992)

Code No.	Industry	No. of Units in West Bengal	No. of Units in Calcutta	Percentage Share of Units in relation with Concerned units of the State.	Percentage Share of Units in terms of total units of Calcutta
20	Total Manufacture of Food Products	9597.00	863.00		9.00
		672.00	26.00	3.86	3.01
21	Manufacture of Food Products	553.00	19.00	3.43	2.20
22	Manufacturing of Beverages, Tobacco and Tobacco Products.	39.00	3.00	7.69	0.35
23	Manufacturing of Cotton Textiles	280.00	-	-	-
24	Manufacture of Wool, Silk and Synthetic Fibre Textiles.	33.00	-	-	-
25	Manufacture of Jute, Hemp and Mesta Textiles.	85.00	-	-	-
26	Manufaturing of Textile Products (Including Apparel other than Footwear)	231.00	36.00	15.58	4.17
27	Manufacture of Wood and Wood Products, Furniture and Fixtures.	377.00	15.00	3.97	1.74
28	Manufacture of Paper and Paper Products and Printing, Publishing and Allied Industries.	547.00	237.00	43.32	27.46
29	Manufacture of Leather and Leather and Fur Products (except repair)	214.00	19.00	8.87	2.20
30	Manufacture of Rubber, Plastic,Petroleum and Coal Products.	552.00	33.00	5.97	3.82
31	Manufacture of Chemical and Chemical Products (except Products of Petroleum and Coal)	1054.00	138.00	13.09	16.00
32	Manufacture of non Metalic Mineral Products	339.00	7.00	2.06	0.81
33	Basic Metal and Alloys Industries	951.00	8.00	0.84	0.92
34	Manufacture of Metal Products and Parts except Machinery and Transport Equipments.	1112.00	43.00	3.86	5.00
35	Manufacture of Machinery, Machine Tools and Parts except Electrical Machinery.	793.00	50.00	6.30	5.79
36	Manufacture of Electrical Machinery, Apparatus, Appliances Supplies and Parts	495.00	34.00	6.86	4.00

Contd. .....

Manufacturing Industries: Registered Working Factories Classified by Industry at Two Digit Level in Calcutta (1992)

Code No.	Industry	No. of Units in West Bengal	No. of Units in Calcutta	Percentage Share of Units in relation with Concerned units of the State.	Percentage Share of Units in terms of total units of Calcutta
37	Manufacture of Transport Equipments and Parts	235.00	11.00	4.68	1.27
38	Other Manufacturing Industries	169.00	56.00	33.13	6.50
39	Repair of Capital Goods	36.00	5.00	13.88	0.58
40	Electricity				
41	Gas and Steam	6.00	-	-	-
42	Water Works and Supply	20.00	3.00	15.00	0.35
50	Construction	1:00	-	-	-
70	Land Transport	6.00	-	-	-
71	Water Transport	5.00	1.00	20.00	0.11
73	Service Incidental to Transport	12.00	2.00	16.66	0.23
74	Storage and Wareousing	221.00	1.00	0.45	0.11
89	Business Services not Elsewhere classified	25.00	20.00	80.00	2.31
91	Sanitary Services	8.00	-	-	-
92	Education, Scientific and Research Services	10.00	-	-	-
95	Recreational and Cultural Services	8.00	-	-	-
96	Personal Services	23.00	9.00	39.13	1.04
97	Repair Services (Other than Capital Goods)	401.00	77.00	19.20	8.92
99	Services not elsewhere classified	4.00	-	-	-

Source: West Bengal Statistical Abstract 1994-95 Govt. of West Bengal, Bureau of Applied Economics and Statistics, PP 397-98

Problems:

For the progress of industries, it concentrately depends upon smooth functioning of the growth rate of production, but sometime due to certain hindrance lots of problems emerge. Even Calcutta too has suffered in the past and till now some setback persists there. As in the case of the small and medium scale engineering units.These rely for their existence on orders from the Railways and from large factories which purchase their intermediate input from small units. In actual sense, the difficulties of the engineerin units around Calcutta are due to increasing competition on the one hand and on the other, to the Central Government's policy of 'freight equalization' by which steel and coal are made available at common all-India prices everywhere.This takes away the special comparative cost advantages that West Bengal, and particularly the Calcutta area, could enjoy on account of nearness to the sources of supply. West Bengal now heads the list of state with sick units.

Another field in which the Calcutta's position has declined is banking. Within West Bengal, Calcutta accounted for 883 banks offices in 1988, ou of the state total of 3,583. There was one bank office for every 4,000 residents.The all India term-financing institutions have generally denied West Bengal and Calcutta an adequate share in the loans sanctioned. The West Bengal State Financial Corporation has also been less active than similar bodies in Maharashtra or Gujarat. It is not a compliment to Calcutta that the only official financial term institution with its head-quarters here is the

Industrial Reconstruction Bank of India, charged with the task of helping sick industries.

Strikes and Lock-outs :

The economy of Calcutta has grown slowly in recent years.Calcutta has number of sick industrial units.The rate of growth has been much below.The reason behind it when new industrial centres were emerging all over the country which based on part of the planning policy of the Government of India, but there has also been a fall in the attractiveness of Calcutta as an industrial area. Complaints are often made about labour unrest.The major part of the man-days loss is due to closure and lock-outs rather than strikes. In 1987, out of the 24.01 million man-days loss in West-Bengal (which would mostly relate to the Greater Calcutta area), 22.37 million man-days loss were reported on account of lock-outs. It reflects the employer's response to labour union demands and some closures are simply due to sickness.[1]

Calcutta is overcrowded, with inadequate housing, transport and municipal facilities.The industrial situation is weakening and it openly indicatec by potential investors that as long as the shortage of power and other prob lems continue, new industry will not be attracted. The State Government has pointed continually to the Centre's apathy towards West-Bengal, as testified by delays in sanctioning project like Haldia Petrochemicals or the Bakreshwar Thermal Power Project, as also by inadequate assistance from the official financial institutions. Meanwhile income disparities are presum

1. Chaudhari, S; (Ed.); (1995): Calcutta; The Living City, Vol 2; The Present and Future, Oxford University Press, Calcutta, PP 102-3

ably increasing. There is no direct statistical evidence, but the growth of luxury construction on the one hand and the expansion of slums on the other side tell their own tale.

Conclusions and Suggestions

Though the study is fully based on secondary sources of data published by various government departments of the state of West Bengal. It is worthwhile to note certain remarkable features of the work.The findings also are of paramount significance due to the obvious reasons that the arena in which we are living is termed as the age of global village and achievements in the field of science and technology is at its zenith. Calcutta as as been stated earlier was one of the main hub of industrial concentration in India but it could not maintain the hegemony with change of the time. There have been various reasons inimical to industrial growth in Calcutta.

The study reveals quite conspicuous picture. If the distribution of registered working factories is taken into account in terms of number it becomes clear that the increase is not maintaining the pace. From the year 1980 to 1985 the concentration of registered working factories increased by 178 units. But it is noticeable that the same working factories within the next span of five years, i.e., from 1985 to 1990 could be increased by only 56 units. It means the same working factories lost 122 units in five years as compared to the last five year period. It may also be pointed out that within the five year period, i.e., from 1985 to 1990 the same working factories went of decreasing at an average of 24 to 25 units annually. From the year 1990 to 1993 it increased only by 53 units.

It again reveals that the increase is not maintaing the previous trends of increase. One more remarkable point has been unveiled concerned with the trend of industrial growth in Calcutta which is more astonishing. It has been noted that the trend of the growth of registered working factories in Calcutta is not the similar to that of the State. There appears to be the broader gap between the concentration of industrial development in Calcutta vis-a-vis West Bengal. West Bangal maintains the increasing trendt while Calcutta shows the stagnant graph of the development. Precisely, it has been disclosed that the city of Calcutta is incredibly at the threshold of stagnation in the field of industrial concentration.

The study also exposes the fact that the small scale industries have suffered more than the other industrial sectors in Calcutta. The total number of small scale units in the year 1985-86 came down to 1566 as compared to 1881 units in the year 1980-81. Here one point which is noteworthy is that the small units in Calcutta presented a sizeable number during the period of 1985-86 to 1990-91. In 1990-91 the figure of small scale industrial units shot upto 2825. In comparision with 1985-86, 1980-81 and 1994-95 this figure touched the highest level ever since attained. The number of small scale industrial units concentrated in Calcutta in the year 1994-95 came down to 1607. As a whole it rarely performed well.

There are certain obvious incredible reasons behind the dismal performances of the industrial concentration in Calcutta. Indecision of the

Government to rejuvenate the old and sick units, socio-economic facilities to the labourers etc. It is also notable that the liberalization policy specifically proved to be worthless for the small scale industries in Calcutta because the post liberalization figure of the small scale units if, are observed then, it becomes obvious that the main thrust shifted to the other units than those of the small scale. It may also be substantiated that the new investors are not willing to invest in Calcutta.

Strike, lock-outs and excessive red tapism have also rendered Calcutta's industries to dismal point. Infrastructural facilities to some extent also not match the modern day needs of industrialization.

Thus it may be concluded that the overall scenario of industrial concentration in Calcutta is not upto the mark and it needs to be revamped.

Suggestions

To reinstate the earlier industrial status of Calcutta a herculean task is to be done. Some suggestive measures are as such:

Now it is the time to draw up two alternative scenaraios for the future of Calcutta.The first is a projection from recent trends, while the second assumes a carefully determined planning strategy.

According to first scenario, the city will grow more and more congested where the areas become over crowded too. Transport facilities will not be able to cope with the increasing number of commuters and

intracity passengers. Municipal services will reach breaking point. The alternative scenario must be projected on the clear understanding that the best way to save Calcutta and put it on the path of meaningful growth is to lighten the burdens on the city. To check this problem, various efforts were made in recent time, like the Metro and the Circular Railway have been aimed at increasing the inflow of people into the city, while the right course would have been to encourage an outflow. This can be achieved by developing industrial centres and good residential locations complete with all education, medical and other facilities. One of the major requirement will be the creation of steady source of power supply.

Hence Calcutta's future seems to lie in developing a wide variety of modern small industries, with low.power consumption or with their own generators. Calcutta needs the industrial concentration policy and planning to serve a number of objectives. The prinicipal objectives should have been rapid growth, fast diversification, promotion of small scale industries, reduction in regional biasness, and prevention of concentration of economic power in private hands.

The general technological change can be considered in relation to its effects on political organisation and the needs and structure of government. Industrialization has to be achieved in the broader context of generating higher production and employment, over coming the problem of poverty and backwardness, need a multi-pronged approach. An integral

part of this approach would be to treat new focal points of industrial growth which have the maximum effect on the quality of life. This will have to be based essentially on the utilisation of local materials and locally available manpower.

Excessive hold of bureaucracy to be checked as to expedite the installation processes. It will also be of geat help to acquire more lands in the outer fringe of the city to allow new industries to be established. There are poor civic and infrastructural facilities which deter new investor from entering the city. Thus all this needs to be enhanced upto the international levels. City also requires radical measures to provide it with such a planning that can enable it to possess separate manufacturing zones, central business district as well as isolated residential zones.

It is to be recognised and accepted that in spite of all those odds, misdemeanour, topsy-turvy situation and lacklustre, Calcutta still possesses the potential of industrial development and if tapped properly, not only its past industrial status can be restored but it can also become the leading industrial hub of India and the world as well.

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